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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ROSE, HELENE ROBERTA	

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,692	DON ET AL.	
	Examiner	Art Unit	
	Helene Rose	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/13/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. Claims 1- 17 have been presented for examination.

2. Claims 1- 17 have been rejected.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 8/13/2004, accordingly, the information disclosure statement is has been considered by the examiner.

Drawings

4. The drawings are objected to because the newly submitted drawings, submitted on November 17, 2004 does not disclose Figure 2 as disclosed within the specification on page 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections – 35 U.S.C 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kedem et al. (US Patent No. 6,363,385, Filing Date of Patent: June 29, 2002)

The applied reference has a common assignee (EMC Corporation) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 1 and 16:

Regarding Claims 1 and 16 discloses a method/computer readable medium utilizing the same functionality, wherein Kedem teaches a method/computer readable medium having thereon software for processing a request from a host to write a database record to a target location on a logical device associated with a data-storage system in data communication with the host, the software comprising instructions that when executed, cause a computer to:

maintain, at the data storage system, information identifying extents of the logical device that are designated for storage of database records (column 4, lines 17-21, wherein the requesting host application

achieves this result by issuing a special copy command that identifies a file in a source device such as the file 36 and destination for that file such as the storage location in the DEST A device, Kedem); and

on the basis of the information, determine whether the target location is one on which a database record is permitted to be stored (column 4, lines 50-59, wherein an individual write pending slot such as a write pending slot includes a header, wherein an individual write pending slot such as a write pending slot includes a header followed by the data in a data block, wherein this data block will contain the data for one physical track, each header includes a WP flag that indicates a need for write operations or destination of data from one of the write pending slots to some location in a physical disk device, wherein once the data is transferred from the cache memory to a corresponding data storage device such as a source device the system clear the WP bit for that slot, Kedem).

Claim 2:

Regarding Claim 2 teaches wherein maintaining information identifying extents comprises maintaining an extent table having extent table entries identifying properties associated with the extent (columns 4, lines 62-67 and lines 1-11, wherein the device headers includes on entry for each logical device in the Symmetric DASD, wherein three such entries are shown, entry 47 for the device, entry 48, for the device 33, and entry 50 for the device 35m wherein each of the entries has the same organization, wherein the device entry 47 includes a header and a plurality of entries for each cylinder in the device 31 and so forth, see Figure 2, all features, wherein the table and properties are illustrated, Kedem).

Claim 3:

Regarding Claim 3, teaches wherein selecting the properties to include information identifying a set of data verification steps to be carried out when data is written into the extent (column 7, lines 42-55, wherein a password entry 104 enables a host source or destination device to verify requests, wherein a

TOD field 105 contains the time at which the extents track was formed, wherein this information is available for use by a host application and a field 106 identifies a first extent that is always 0 to indicate the first record in a track and a last extent entry 107 identifies the last used extent relative to the extent in the first extent entry 106 and column 8, lines 41-44, wherein such verification might include determining that the first address is a valid address and is the same address as might be recorded in the device header, particularly the device starting location 114 in FIG. 3 and wherein any of a number of other tests may also be performed to verify the context and content of the system call, Kedem)

Claim 4:

Regarding Claim 4, teaches wherein identifying the logical device to be a logical device on which database records are to be written (column 10, lines 45-50, wherein identifying the single track being written from the source host application, wherein the copy program shown in Figure 8, responds by writing that single track form the source device to the destination device, Kedem).

Claim 5:

Regarding Claim 5, teaches wherein identifying a set of data verification steps to be carried out in connection with writing data to an extent (column 9, lines 22-30, wherein extents track is set to be write pending, and so forth, Kedem).

Claim 6:

Regarding Claim 6, teaches carrying out the data verification steps (column 8, lines 45-58, wherein assuming verification control passes, Keedem).

Claim 7:

Regarding Claim 7, teaches wherein determining whether the target location is one on which a database record is permitted to be stored comprises determining that the target location is contained completely within an extent (column 9, lines 17-20, wherein once all information has been transferred to the

track ID tables associated with the destination device the protection bits in the session column are set for each track on the entire extent for the source device, Kedem).

Claim 8:

Regarding Claim 8, teaches wherein determining whether the target location is one on which a database record is permitted to be stored comprises determining that the target location is contained completely within one or more extents, all of which share the same data verification steps (Figure 6, all features, and column 8, lines 37-47, wherein the host adapter in the data storage facility such as the host adapter receives an establish extents system call, the destination device controller such as the destination device controller receives the system call and verifies various parameters and column 11, lines 34-37, wherein initially the host adapter uses the same process shown in Figure 6, diagrams 123-126, and sends the request record to the destination device adapter, Kedem)

Claims 9 and 17:

Regarding Claims 9 and 17 discloses a method/computer readable medium having encoded thereon software for processing an I/O request to access a storage device having a plurality of extents defined thereon, each of the extents having a corresponding set of processing instructions associated therewith, the software including instructions that, when executed, cause a computer to:

receive an I/O request having an associated target location on the storage device (column 8, lines 39-40, wherein receives the system call and verifies various parameters, Kedem);

identify an extent set associated with the target location (Figure 7, diagram 138, Kedem), the extent set having at least one extent (column 7, lines 60-67, wherein extents track includes one or more extent buffers such as the extents buffer and in the destination A device includes only one extents buffer is included in the extent track, Kedem);

determine that the processing instructions associated with all of the extents within the extent set can be executed (column 7, lines 22-27, wherein the process can be repeated during a given session, Kedem).

executing the I/O transaction (column 8, lines 29-30, wherein may or may not generate an I/O request, Kedem); and

execute processing instructions consistent with the extent set associated with the target location (column 8 lines 65-67, Kedem).

Claim 10:

Regarding Claim 10, teaches wherein receiving an I/O request comprises receiving a write request (Figure 9, diagram 170, wherein receive the write request from the source application, Kedem).

Claim 11:

Regarding Claim 11, teaches selecting the processing instructions to be instructions for verifying that the writing of the data to the target location was carried out successfully (Figure 11, diagram 211, wherein it determines if the process is complete, Kedem).

Claim 12:

Regarding Claim 12, teaches wherein determining that the processing instructions associated with all of the extents within the extent set can be executed comprises determining that none of the extents associated with the target location overlap with each other (column 12, lines 42-45, wherein the establish of the extents track will again produce a single extents track because both the files are in non-overlapping locations in the same source device, Kedem).

Claim 13:

Regarding Claim 13, teaches wherein determining that the processing instructions associated with all of the extents within the extent set can be executed comprises determining that the target location includes overlapping extents, and that the processing instructions associated with the overlapping extents are compatible (column 13, lines 3-11, Kedem).

Claim 14:

Regarding Claim 14, teaches a data-storage system comprising:

a logical device having a plurality of extents defined thereon (column 3, lines 59-65, wherein logical volume may comprise a portion of a single physical device, complete physical device, portions of multiple physical devices or even multiple complete physical devices, Kedem), each of the extents having a corresponding set of processing instructions associated therewith (column 8, lines 62-67, wherein selects and locks the corresponding extents track in step so that no additional changes may be made so that extents track, wherein for each track in the destination device step performs a number of functions, Kedem); and

information identifying each extent on the logical device and the processing instructions associated with that extent (column 9, lines 43-50, wherein source device controller reads the extents track such as the extents track, wherein uses the data from the extents track to obtain the location of the initial destination track and identifies the destination device so the two items specifically located the first destination track with the data storage facility and lines 54-55, wherein the test determines whether it is necessary to copy a specific track from the source destination, Kedem).

Claim 15:

Regarding Claim 15, teaches wherein the information identifying each extent comprises an extent table having an extent table entry corresponding to an extent on the logical device (column 9, lines 17-20, wherein once all the information has been transferred to the track ID tables associated with the destination device, the protection bits in the session column are set for each track on the entire extent for the source device, Kedem).

Prior Art of Record

(The prior art made of record and not relied upon is considered pertinent to applicant's disclosure)

1. Kedem et al. (US Patent No. 6,363,385) discloses a method for copying a data file from a source device to a destination device.

2. Lee et al. (US Patent No. 6,564,219) discloses a method and apparatus for obtaining an identifier of a logical unit of data that belongs to a database.

3. Bromley et al. (US Patent No. 6,772,290) discloses systems, methods, apparatus and software can utilize an indirect write driver to prevent possible error conditions associated with using a third-party copy operation directed at a storage resource

Point of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Rose whose telephone number is (571) 272-0749. The examiner can normally be reached on 8:00am - 4:30pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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June 22, 2006

DON WONG
SUPERVISORY PATENT EXAMINER